NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

F A C T S H E E T

(pursuant to NAC 445A.236)

Permittee: Kal Kan Foods, Inc.
500 Waltham Way
McCarran, Nevada 89434

Permit: NEV95017 - Renewal

Location: Kal Kan Western Dry Facility
Storey County, McCarran, Nevada
Latitude 39° 33' 26" N; Longitude 119° 32' 44" W
Township 20 N, Range 22 E, Sections 31 and 32 MDB&M

General: The Applicant manufactures dry pet food at this facility. The Applicant has applied for a permit renewal to continue to discharge treated wastewater from this facility to the groundwater of the State. The treatment system consists of a single tank Sequential Batch Reactor (SBR) providing secondary treatment with chlorine disinfection and discharge to the effluent holding ponds for reuse and evaporation. At peak loads and strength (25,000 gallons per day [gpd] and 3,000 milligrams per liter [mg/L] 5-day, biochemical oxygen demand [BOD_5]), the SBR process time is 12 hours between cycles.

The treatment process includes a 4,000-gallon industrial waste grease trap that provides solids separation. The facility produces high fluctuations of flow and organic strength. The industrial waste includes liquids containing corn, seasoned liquid meat products, animal fats, vegetable oil, vitamins, and trace minerals. Floatable or settleable food product solids are retained in the trap and transported to the aerobic digester for treatment. Land application of these solids is not included in this permit. The grease trap stabilizes waste strength and allows the operator to inspect and test the waste before it enters the 15,000-gallon, below ground, SBR influent holding tank. Anaerobic digestion quickly forms organic acids in the grease trap, frequently resulting in the discharge to the holding tank having a pH of 4.0 to 5.0 standard units.

A maximum of 5,000 gpd sanitary waste with a peak day industrial wastewater flow of 20,000 gpd is pumped via lift station number 1 to the influent holding tank. The SBR treatment plant is sized to receive a batch load of 12,500 gallons of waste from the influent holding tank, with 12-hour cycles. The cycle length is frequently reduced when the BOD_5 of the incoming wastewater is less than design peak BOD_5 loading. Each react cycle includes multiple aeration cycles that ensure completion of the nitrification and denitrification reactions.

The SBR discharges the stabilized, settled effluent to the chlorine contact chamber for disinfection or to the 320,000-gallon effluent evaporation pond (EEP) The effective chlorine contact tank retention time is equal to the batch time. The chlorine contact chamber discharges disinfected effluent to the 60-mil HDPE-lined, 700,000-gallon effluent holding pond (EHP) The EHP has approximately 500,000 gallons of emergency storage capacity in the 2-foot freeboard.

The excess activated sludge from the SBR is aerobically digested, discharged to a sludge dehydrator and transported to the Lockwood Landfill for disposal. Land application of these solids is not included in this permit.

The facility is permitted to discharge from the EHP for landscape irrigation of two fields. The smaller field, approximately 1.25 acres, has been unsuccessfully seeded and a spray irrigation system has been installed. The larger field, approximately 1.50 acres, has been graded but not planted and an irrigation system has not

been installed. The renewed permit will require the submittal of a revised effluent management plan and the establishment of a viable stand of vegetation for nutrient and reuse water uptake.

Previously, aerobically digested sludge was discharged to a 60-mil HDPE-lined residuals holding pond. The residuals holding pond was designed to store 12 months, 320,000 gallons at a depth of five feet with two feet of freeboard, of waste solids at design loadings. This pond is in the process of being converted to the EEP to provide additional surface area for evaporation and winter storage capacity. The effluent pumped to the EEP will not be disinfected.

The effluent is no longer used as the dryer exhaust air scrubber water.

Characteristics: The influent wastewater will be high strength industrial and domestic waste with a maximum design BOD_5 of 3,000 mg/L. The BOD_5 may exceed 3,000 mg/L for influent flows less than 25,000 gpd. The SBR plant will produce an effluent with BOD_5 and total suspended solids (TSS) concentrations of less than 30 mg/L, 30-day average, and a total nitrogen (TN) concentration of less than 10 mg/L, 30-day average. After disinfection, the effluent will have a fecal coliform concentration of less than 23 colony forming units per 100 milliliters, 30-day average.

Flow: The permitted maximum 30-day average flow is 0.025 million gallons per day (MGD). The permitted daily maximum flow is 0.049 MGD.

Receiving Water Characteristics: The receiving water is groundwater of the State. The depth to groundwater is approximately 14 feet below ground surface (bgs) in the area of the EHP, approximately 11 feet bgs northwest of the 1.25 acre irrigated field, approximately 27 feet bgs north of the 1.5-acre future irrigation site, and ranges from 32 to 38 feet bgs in the area of the former residuals holding pond, now the EEP. The groundwater gradient is in a northerly direction, toward the Truckee River.

At the time of well construction, the groundwater at MW-1, MW-4, MW-5, and MW-6 met drinking water standards for all analyzed constituents. The MW-2 groundwater, north of the 1.5-acre future irrigation site, exceeded drinking water standards for iron, manganese, and aluminum. The groundwater at MW-3, northwest of the 1.25-acre irrigated field and within the Truckee River 100-year floodplain, exceeded the drinking water standard for manganese.

Procedures for Public Comment: The Notice of the Division's intent to reissue a permit authorizing the facility to discharge to the groundwater of the State of Nevada subject to the conditions contained within the permit, is being sent to the **Comstock Chronicle** and the **Reno Gazette-Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 PM October 13, 2001, a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator of EPA Region IX or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determined to be appropriate. All public hearings must be conducted to accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Effluent Limitations and Special Conditions:

Table 1 sample locations:

i. Influent prior to discharge into the Sequential Batch Reactor;
ii. Effluent discharged from the chlorine contact chamber prior to discharge to the EHP, Outfall 001;
iii. Effluent discharged from the EHP for reuse, Outfall 002;
iv. Effluent discharged from the chlorine contact chamber prior to discharge to the EEP, formerly the residual holding pond, Outfall 003;
v. Fluid level in the EHP; and
vi. Fluid level in the EEP.

TABLE 1: EFFLUENT DISCHARGE LIMITATIONS

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	30 - Day Average	Daily Maximum	Sample Location	Measurement Frequency	Sample Type
Flow (MGD)	0.025	0.049	i.	Continuous	Flow Meter
	Monitor and Report		ii., iii.[1], iv.		
Biochemical Oxygen Demand, 5-day (mg/L)	Monitor and Report		i.	Monthly[2]	Discrete
	30	45	ii.		
Total Suspended Solids (mg/L)	Monitor and Report		i.	Monthly[2]	Discrete
	30	45	ii.		
Total Nitrogen as N (mg/L)	10	15	ii.	Monthly[2]	Discrete
	Monitor and Report		iii.		
Nitrate as N (mg/L)	Monitor and Report		ii., iii.	Monthly	Discrete
pH (Standard units)	Monitor and Report		i.	Monthly	Meter Reading
	Within the range of 6.0 to 9.0		iii.		
Fecal Coliform (CFU or MPN/100 mL)	23	240	ii.	Monthly[2]	Discrete
	Monitor and Report		iii.		
Total Dissolved Solids (mg/L)	Monitor and Report		iii.	Monthly	Discrete
Fluid level in the effluent storage ponds (feet)	----	8.0	v.	Weekly	Measurement
	----	5.0	vi.		

Notes:

(1) The effluent reuse discharge limitation shall be determined by the Effluent Management Plan.
(2) If the 30-day average discharge limitation is exceeded, additional sample(s) should be analyzed to potentially reduce the 30-day average.

MGD: Million gallons per day
mg/L: Milligrams per liter
CFU: Colony forming units
MPN: Most probable number
mL: Milliliters

The Permittee shall monitor each groundwater monitoring well, including MW-01, MW-02, MW-03, MW-04, MW-05 and MW-06 for the following parameters:

TABLE 2: GROUNDWATER MONITORING

PARAMETER	REQUIREMENTS	FREQUENCY	SAMPLE TYPE
Depth to Groundwater (feet)	Monitor & Report	Quarterly	Field Measurement
Groundwater Elevation (feet)	Monitor & Report	Quarterly	Calculate
Total Dissolved Solids (mg/L)	Monitor & Report	Quarterly	Discrete
Total Nitrogen as N (mg/L)	See Part I.A.2.e	Quarterly	Discrete
Nitrate as N (mg/L)	Monitor & Report	Quarterly	Discrete
Chlorides (mg/L)	Monitor & Report	Quarterly	Discrete

Notes:
mg/L: Milligrams per liter

Part I.A.2.e. The detection of concentrations of total nitrogen as nitrogen (-N) in groundwater samples invoke the following limitations and response requirements:

i. If the total nitrogen-N concentration in any of the six monitoring wells increases to 4.0 milligrams per liter (mg/L), the frequency of monitoring shall be increased to monthly.

ii. If the total nitrogen-N concentration in any of the six monitoring wells increases to 5.0 mg/L, the frequency of monitoring shall be increased to weekly and an alternate method of disposal or an Effluent Management Plan (EMP) revised to decrease the amount of nitrogen reaching the groundwater shall be submitted to the Nevada Division of Environmental Protection (Division) for review and approval.

iii. If the total nitrogen-N concentration in any of the six monitoring wells increases to 6.0 mg/L, the Permittee shall immediately implement the Division approved alternate method of disposal or stop discharging and continue the weekly monitoring.

The Permittee shall take all corrective actions necessary to ensure that there is no degradation of the waters of the Truckee River due to this facility.

Schedule of Compliance: The Permittee is to submit for Division review and approval revised copies of the Operations & Maintenance (O&M) Manual and the Effluent Management Plan (EMP). The revised O&M Manual and EMP are to be submitted within ninety (90) days of the issuance date of the permit.

By May 1, 2002, the Permittee shall have established a viable crop of vegetation on the irrigated field(s) to provide the required nutrient and water uptake as determined by the EMP for the reuse site(s).

Rationale for Permit Requirements: Monitoring is required to assess the level of treatment being provided by the SBR and chlorine contact chamber, to determine when design capacity is being approached and to ensure the prevention of groundwater contamination.

pH has been added to the effluent monitoring requirements because of concerns regarding the impact of organic acids generated in the grease trap on SBR performance. Reuse water pH must be in the range of 6.0 to 9.0 standard units.

Fecal coliform has been added to the reuse water monitoring requirements because of concerns about fecal coliform growth in the EHP prior to reuse.

Total dissolved solids has been added to the reuse water monitoring requirements to be consistent with the groundwater monitoring.

Fluid level monitoring in the EHP and EEP has been added to the monitoring requirements to verify that the required 2-foot freeboard is maintained.

Due to the facility's proximity to the Truckee River, the total nitrogen limits in Part I.A.2.e. of the permit have been reduced from those of a standard groundwater discharge permit. The 1.25 acre irrigated field is within 300 feet of the Truckee. The groundwater total nitrogen concentration in all six monitoring wells has been consistently below 3.0 mg/L.

Proposed Determination: The Division has made the tentative determination to issue the proposed permit for a five (5) year period.

Prepared by: Bruce Holmgren
September 2001